

PREFACE¹

This report on *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (Good Practice Report)* is the response to the request from the United Nations Framework Convention on Climate Change (UNFCCC) for the Intergovernmental Panel on Climate Change (IPCC) to complete its work on uncertainty and prepare a report on *good practice* in inventory management.

The *Good Practice Report* provides *good practice guidance* to assist countries in producing inventories that are neither over nor underestimates so far as can be judged, and in which uncertainties are reduced as far as practicable.

To this end, it supports the development of inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and quality assurance, and efficient in the use of resources.

The *Good Practice Report* treats four main topics. Firstly, Chapters 2-5 contain *good practice guidance* addressing the Energy, Industrial Processes, Agriculture, and Waste Sectors. These chapters address:

- Choice, by means of decision trees, of estimation methods suited to national circumstances;
- Advice on the most suitable emission factors and other data necessary for inventory calculations;
- Quality assurance and quality control procedures to enable cross-checks during inventory compilation;
- Information to be documented, archived and reported to facilitate review of emission estimates;
- Uncertainties at the source category level.

Secondly, Chapter 6, Quantifying Uncertainties in Practice, describes how to determine the relative contribution that each source category makes to the overall uncertainty of national inventory estimates, using a combination of empirical data and expert judgement. The chapter describes methods that will help inventory agencies report on uncertainties in a consistent manner, and provides input to national inventory research and development activities.

Thirdly, since inventory development is resource-intensive, and estimates are likely to improve in the future, Chapter 7, Methodological Choice and Recalculation, provides guidance on how to prioritise *key source categories*, and also shows how and when to recalculate previously prepared emission estimates to ensure consistent estimation of trends.

Finally, Chapter 8, Quality Assurance and Quality Control, describes *good practice* in quality assurance and quality control procedures for inventory agencies with respect to their own inventories. *Good practice guidance* covers measurement standards, routine computational and completeness checks, and documentation and data archiving procedures. A system of independent review and auditing is also described.

Three annexes provide supporting material on basic concepts, definitions and verification.

The *Good Practice Report* does not revise or replace the *IPCC Guidelines*², but provides a reference that complements and is consistent with those guidelines. Consistency with the *IPCC Guidelines* is defined by three criteria:

- (i) Specific source categories addressed by *good practice guidance* have the same definitions as the corresponding categories in the *IPCC Guidelines*.
- (ii) *Good practice guidance* uses the same functional forms for the equations used to estimate emissions that are used in the *IPCC Guidelines*.
- (iii) *Good practice guidance* allows the correction of errors or deficiencies that have been identified in the *IPCC Guidelines*.

Criterion (i) does not exclude the identification of additional source categories that may be included in the *Other* category in the *IPCC Guidelines*. Default emission factors or model parameter values have been updated, where they can be linked to particular national circumstances, and documented.

¹ Preface agreed by the Task Force Bureau for the IPCC National Greenhouse Gas Inventories Programme that met in Sydney on 4 March 2000.

² Full title: *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC, 1996)*.

Whatever the level of complexity of the inventory, *good practice guidance* provides improved understanding of how uncertainties may be managed to produce emissions estimates suitable for the purposes of the UNFCCC and for the scientific work associated with greenhouse gas inventories.